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March 10, 2012 Subject: Sustainability

Midterm Lesson Plan

Description: Although over 70% of Earth's surface is covered with water, less than 1% of this water is available for human consumption. In this lesson, students will study the availability of water on Earth and discuss methods that can be used to conserve this critical resource.

Grade Level: 6 - 8

Topic: Water Conservation

Standards: Common Core Science Standard 4

Professional Goal- Planning and preparation

1E. Designing Coherent Instruction

Time: One to two lessons

Objectives:

1. Students will understand the need for water conservation.

2. Students will explore strategies to conserve water at home and in their community.

3. Students will learn easy ways to conserve water.

Materials:

1. Two 2-liter bottles full of water.

2. Two clear empty containers.

3. Markers and tape for making labels.

4. Notebooks for student work.

Procedure/Methods:

Part 1: How much water do we really have?

1. The students will be asked the question "How much of the Earth is made up of water and how much of this water is available for human consumption?' The students will be asked to write their answers in their notebooks.

2. The teacher will ask a volunteer to demonstrate his or her answer concerning this question. The student will be given a bottle filled with water and an empty container. Tell the class that the bottle represents all the water on Earth. Ask the volunteer to pour into the empty container the amount of water that he or she thinks represents the percentage of Earth's water available for human use. Then ask the class to make suggestions about whether more or less water needs to be in the container. Have the volunteer adjust the amount until there is a general consensus among the students.

3. Now demonstrate to the students the amount of water on Earth that is available for human consumption. Show the students the bottle filled with water and tell them it represents all the water on Earth. Pour most of the water into a clear empty container and label it salt water. Explain to the students this container represents the 97% of water that makes up the world's oceans.

4. Now pour the rest of the water into the other clear container, and explain to the students that this represents the fresh water on the Earth, which is 3%. Label this bottle fresh water for human use.

5. Divide the students into small groups and ask them to discuss the demonstration that was presented to them concerning the Earth's water.

6. Bring the class back together and ask each group what they learned about the Earth's water and how much available for human consumption. Explain to students the water supply that man can consume is limited and must be conserved to ensure human, animal, and plant life.

Part 2: How Can People Conserve Water?

1. Have students write some ideas on ways to conserve water in their notebooks.

2. Have students view a short video that supports water conservation and informs viewers easy ways to conserve water.

3. Have students express their ideas that they have written down in their notebooks on water conservation and express their views on the video that they watched.

Assessment: Each student will write an article discussing his or her ideas about water conservation. The student will discuss the importance of conserving water and techniques for reducing water use. A rubric will be provided for the students.